

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Paul A. Kline** Confirmation No.: **4988**
Application No.: **10/016,998** Group Art Unit: **2613**
Filing Date: **December 14, 2001** Examiner: **Shi K Li**
For: **Interfacing Fiber Optic Data With Electrical Power Systems**

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Sir:

Reasons for Request for Pre-Appeal Brief Conference Review

Pursuant to the Pre-Appeal Brief Conference Program, Applicant hereby requests a pre-appeal brief conference review of the above-referenced application.

The present invention is directed to a system, device for communicating data between a fiber optic network and a plurality of customer premises via a low voltage power line. As illustrated in Figures 3 and 6, the invention may include a transformer bypass device (Power Line Bridge 301 - that communicates over both the medium voltage power line and the low voltage power line extending to the customer premises) and a fiber optic interface device 203.

112 Rejections

The Final Office Action asserts that independent claims 1, 20, and 36 fail to comply with the written description requirement and the enablement requirement.

First, in the rejection of **claim 36** the Final Office Action states at page 3, that the "Instant specification does not teach using a transformer bypass device together with a router" Applicant explained that claim 36 does not claim a transformer bypass device. In response, the Advisory Action states that claim 46 (which depends from claim 36) claims a bypass device and therefore the rejection of claim 36 is not withdrawn. Applicant requests withdrawal of the § 112 rejection of claim 36.

In addition, the Final Office Action asserts that the claimed limitation of "a router in communication with the fiber optic transceiver and the modem" is not supported by the original disclosure in combination with a transformer bypass device. Pages 2 and 3.

Figures 3 and 6 illustrate the fiber optic interface device 203 in combination with the transformer bypass device (power line bridge 301). At page 11, line 12 the specification states that "fiber optic interface may function as a router..." At page 15, lines 18-19 the specification states, "fiber optic interface device 203 may identify certain data headers and a forwarding table to determine to which customer premise the data should be transmitted." Without explanation, the Examiner appears to contend that this disclosure (and other supporting disclosure), which accompanies Figure 4, cannot be used support embodiments of other figures. However, the fiber optic interface device 203 of Figure 4 maintains the same name and label (203) in Figures 3 and 6. In addition, one skilled in the art would understand that some routing must be performed to ensure that the data arrives at the correct destination in an IP network.

The Examiner responds to this argument in the Advisory Action (first para.) by stating that the fiber optic interface device 203 routes data to the power line bridge and not "to one of a plurality of communication devices located in one of a plurality of customer premises" as claimed. Applicant submits that the fiber optic interface device 203 is connected to the power line bridge, but the fiber optic interface device 203 still routes data to one of the customer premises. While any router may be directly connected to a particular device (e.g., a communication interface, a modem, etc.), the router may still route data to a destination to which it is not directly connected. In fact, in the prior art relied upon by the Examiner for disclosure of a router (Dhara), the router communicates via the Internet and is not directly connected to the destination device.

The Final Office Action (page 2) states that the specification does not support the claim element of **claim 20** of: "a third interface port configured to communicate data signals over a medium voltage power line of the electric power system." The Examiner appears to concede Applicant's response because for the very first time in the Advisory Action, the Examiner states that Figure 6 does not support "a modem in communication

with the fiber optic transceiver and the second interface port" as claimed. Figure 7 illustrates the internal circuitry of fiber optic interface device 203 having a modem 702 in communication with optical transceiver 701 and second interface port 703. As shown in Figure 6, the second port of interface device 203 is connected to the power line bridge 301 that includes the claimed second port (connected to the low voltage power line 113) and claimed third port (connected to the medium voltage power line 120).

Applicant respectfully requests withdrawal of the rejections under 35 USC § 112.

Prior Art Rejections

Independent claim 1, 20 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over four references - U.S. Pat. No. 6,282,405 to Brown ("**Brown1**") in view of U.S. Pat. No. 7,203,185 to Dhara et al. ("**Dhara**"), U.S. Pat. No. 6,643,566 to Lehr et al. ("**Lehr**") and U.S. Pat. No. 5,949,327 to Brown ("**Brown2**"). In Applicant's Request for Reconsideration (RR) at page 6, Applicant refutes the Examiners reasons to combine the references. Incredulously, the Examiner states that KSR does not provide a clear guideline as to what is considered a valid reason. Last para. The Examiner ignores the fact that his reasoning for combining the four references (to shorten wiring that carries hazardous voltages and reduce maintenance costs) is not achieved by the combination of references or the present invention(e.g., no wires carrying any voltage are shortened). Applicant submits that the Examiner has failed to provide any reasoning to combine the **four** references.

Fiber optic transceiver

Brown1 fails to disclose a fiber optic transceiver as required by **claims 20 and 36**. Figure 13 discloses a coaxial/fiber interface unit 138. The Advisory Action states that the interface unit 138 receives and transmits and is therefore a transceiver. Data signals may flow (bi-directionally) through a resistor but that does not make the resistor a transceiver. The interface unit 138 simply interfaces the power line 134 to the fiber 132. Applicant submits that these components may form an electro-optical converter, but do not disclose a transceiver as claimed. In fact, at col. 3, lines 14-22, Brown1

states only that the interface units include high pass filters. There is no disclosure supporting the assertion that the interface unit 138 of Figure 13 is a transceiver.

Router

All of the independent claims require routing data to one of a plurality of communication devices located in one of a plurality of customer premises. The Final Office Action relies on Dhara for such disclosure. However, router 124 shown in Figure 1 of Dhara is connected to the Internet and CMTS 120. There is no disclosure in Dhara of routing data to one of a plurality of communication devices as claimed.

Lehr discloses distributing power over data lines, but also fails to disclose routing data to one of a plurality of customer premises connected to a low voltage power line.

Transformer Bypass Device

Claim 1 requires a transformer bypass device coupled to a medium voltage power line of the electric distribution power system and a low voltage power line of the electric power system. The Final Office Action relies on TX/RX unit 1310 of Figure 13 of Brown2 for disclosure of this claim element. However, it is clear from Figure 13 that TX/RX unit 1310 is not coupled to the low voltage power line for communications and, therefore, does not comprise a transformer bypass device as claimed.

In response to this argument, the Advisory Action states that TX/RX unit is coupled to L.V. supply. A transformer bypass unit communicates data signals from the medium voltage power line 121 to the low voltage power line 113 for reception at the customer premises (thereby bypassing the distribution transformer). Spec. at page 9, lines 6-8, and Figs. 3 and 6. The L.V. supply conductor of Figure 13 of Brown2 indicates that the TX/RX unit 1310 is supplied operating power via the low voltage supply conductor. Thus, the TX/RX unit 1310 is not communicating over the L.V. supply conductor. Figure 12 provides a schematic of the unit of Figure 13. As illustrated in Figure 12, it is clear that the unit 1310 does not communicate over low voltage power lines. In summary, there is no disclosure that an output from the unit 1310 is transmitted over the low voltage power line to a customer premises and therefore the TX/RX unit does not constitute a transformer bypass device.

Modem

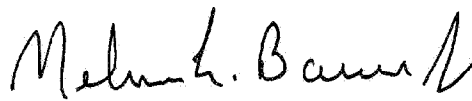
In rejecting **claims 1 and 36**, the Final Office Action states "Brown1 teaches in Figure 2 transceiver/modem between the network conditioning unit (corresponding to 136 of Figure 13) and optical network." Page 4. Conditioning unit 136 comprises only a low pass filter and a high pass filter (as is indicated by the symbols of Figures 13 and 11b). Thus, Figure 13 fails to disclose a modem and Figure 2 of Brown1 fails to disclose any fiber optic communications. Thus, the Examiner is inappropriately combining components of different embodiments (by combining the embodiments of Figures 2 and 13). In other words, Brown1 fails to disclose a modem in combination with a fiber optic transceiver as claimed.

In the Advisory Action, the Examiner responds that the modem of Figure 2 of Brown1 is represented in Figure 13 by the coaxial/fiber interface unit 138. The Examiner fails to provide any support for this assertion. If the two components in the two figures were the same, then the text in the drawing and/or the label would be the same. In Figure 2, the data traverses the medium voltage power lines (11k) (and not the low voltage power lines). In Figure 13 the data traverses the fiber/coax 132 and low voltage power lines (but not the medium voltage power lines). Thus, it is obvious that the interface unit 138 of Figure 13 is not a modem.

Furthermore, as discussed above the Examiner has already asserted that the interface unit 138 of Figure 13 discloses a fiber optic transceiver and now asserts, instead, that the interface unit 138 discloses a modem.

Applicant respectfully requests an allowance of the present application.

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